

Preface

This issue contains five papers and one Technical Forum contribution on a variety of subjects: advances in LAN-based server support for multimedia data delivery and resource management, a new method for reorganizing databases on line, the San Francisco project and the resulting IBM Business Frameworks, systems for computer-based interactive storytelling, and the creation of books using electronic ink.

An area of high current interest that can benefit from new levels of scalability is multimedia, with its requirements for extensive computing power, large data capacity, and high transaction rates. Kienzle et al. discuss enhancements made to the OS/390* LAN Server in support of multimedia applications in an S/390* environment. The enhancements allow the addition of multimedia features to existing applications and expansion of capacity as demands increase.

One area of OS/390 support for multimedia applications is treated by Dan et al. in a paper on resource management for multimedia. The user of a multimedia system expects a presentation that appears as if a sufficiently powerful machine were dedicated to that user, providing, for example, images that are free of any time- or resource-sensitive defects such as jitter. In general, due to the transaction demands of multimedia, this requires the reservation of resources for multimedia sessions. OS/390 LAN Server, and specifically its video server, can offer such services through its resource manager, which the authors describe.

Database reorganization presents operational challenges when it is difficult or impractical to take such databases or the systems containing them off line. Such challenges might arise, for example, when the database is large or there is a requirement for continuous operation. The optimal solution is reorganization on line, during concurrent operational use. Sockut, Beavin, and Chang present a method for performing such an optimal reorganization and provide

background on and discussion of other approaches and alternative methods.

The next contribution, by Arnold et al., appears as a Technical Forum. The authors describe the ongoing San Francisco project, an IBM-led effort in support of and involving hundreds of software vendors worldwide. This project's focus is on lowering the training, risks, and costs for businesses in migrating existing applications and creating new ones for the world of distributed object solutions. The results to date consist of application frameworks, infrastructure, and logic, known collectively as the IBM Business Frameworks.

An advanced, computer-based, interactive storytelling system and its use for interactive creation of stories is explored in a paper by Davenport and Murtaugh. The resulting capability allows and encourages multiple authors and the audience, using a networked presentation system, to collaborate in the development of a story and the establishment of its meaning. The authors refer to their system as an automatist storyteller and argue that such an approach is of particular value for complex stories and stories of considerable scope or length.

A revolution in the presentation of book-length information by electronic means may well be in the offing and may have consequences as fundamental and far-reaching as the revolution that spawned the printed book itself. Jacobson et al. describe their work in creating a new kind of book, containing pages made of paper treated with a new ink-like material that allows electronically addressable information to be displayed. Such a book would retain many of the practical advantages of an ordinary printed book, but would electronically display on its pages the content of other selected books. Given its practicality and flexibility, they refer to it as "the last book," designed for the information age.

The editor and staff of the *IBM Systems Journal* wish to thank the many non-IBM readers who took part in our recent survey. The results of the survey show that the majority of those surveyed rate the *Journal* highly, both in terms of quality and coverage, and that over 80 percent find the *Journal* helpful in keeping them abreast of new developments in the field. We thank you for this vote of confidence. Readers also provided information on ways to improve the *Journal*, especially when it comes to readability. As a result, the editorial staff has spent much time thinking about ways we can use this information to provide the most value for our readers. We also discovered that many of you are unaware of the *Systems Journal*'s presence on the Internet, so please visit our Web site at <http://www.almaden.ibm.com/journal/>. Those of you, surveyed or not, who may have comments or suggestions on our current practices and the future, are encouraged to write to the editor, *IBM Systems Journal*, P.O. Box 218, Yorktown Heights, New York 10598-0218 USA, or send an e-mail message to journals@watson.ibm.com. We welcome your thoughts and ideas. And, again, our thanks to all of you who participated in the recent survey.

In this issue we also recognize the many referees who voluntarily help us maintain the quality of the *IBM Systems Journal*. They are drawn from academia, from the computer industry as a whole, and from IBM. The list of referees for the last four years is included at the end of this issue. On behalf of the authors, readers, and editors, we thank them for their conscientious efforts. If you would be willing to assist us as a referee, please contact the editor and indicate your areas of expertise.

The next issue of the Journal will be a special issue on projects sponsored by IBM Canada's Centre for Advanced Studies.

Gene F. Hoffnagle
Editor

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